CLAIMS

1. An arrangement for testing a radio device (112) comprising a waveguide (108) closed at both its ends and comprising a holder (110) arranged to hold the radio device (112) at least partly inside the waveguide (108) in such a manner that the radiating part of the radio device remaining outside the waveguide is entirely inside the holder (110), **characterized** in that the waveguide comprises one or more ridges, the end of at least one ridge facing the holder being bevelled, and

one coupling (114) inside the waveguide for transmission and reception of a radio-frequency signal by the use of a wideband mode of propagation.

2. An arrangement as claimed in claim 1, **characterized** in that the end of the waveguide on the side of the holder comprises one or more pegs made from a conductive substance and fastened to the inner surface of the waveguide.

3. An arrangement as claimed in claim 2, **characterized** in that the pegs are in contact with the waveguide only at their ends.

4. An arrangement as claimed in claim 1, **characterized** in that one end of at least one peg is fastened to the same wall of the waveguide as one ridge.

5. An arrangement as claimed in claim 1, **characterized** in that absorption material is fastened to the inner surface of the waveguide at the end on the side of the holder.

6. An arrangement as claimed in claim 5, **characterized** in that single-layered or multilayered absorption material is fastened to the inner surface of the waveguide as one or more strips.

7. An arrangement as claimed in claim 1, **characterized** in that the cross-sectional shape of the holder (110) conforms to the external dimensions of the radio device (112) to be tested and that the length (208) of the holder (110) is selected in a manner preventing radio-frequency radiation from propagating out from the end of the holder opposite to the waveguide.

8. An arrangement as claimed in claim 1, **characterized** in that the end of the holder (110) opposite relative to the waveguide is closed.

9. An arrangement as claimed in claim 1, **characterized** in that the holder (110) is configured to hold the radio device (112) inside the

waveguide in such a manner that the antenna part of the radio device is inside the waveguide.

10. An arrangement as claimed in claim 1, **characterized** in that the cross section of the waveguide is selected according to the desired frequency range to be tested.

11. An arrangement as claimed in claim 1, **characterized** in that the arrangement comprises an electric or magnetic coupling of the radio-frequency radiation propagating in the waveguide to a measuring device.

12. An arrangement as claimed in claim 1, **characterized** in that the coupling is implemented by means of a probe, loop or iris.

13. An arrangement as claimed in claim 1, **characterized** in that the holder comprises small openings at the keys of the radio device to be tested.

14. An arrangement as claimed in claim 1, **characterized** in that to the radio device to be tested is coupled a control signal that is transferred to the device by means of a cable (120, 118), and that the holder comprises a lead-in for the cable.

15. An arrangement as claimed in claim 1, **characterized** in that the holder (110) is detachably attachable to the waveguide (108).

16. An arrangement as claimed in claim 1, **characterized** in that the waveguide (108) comprises an opening (230) and fastening means for the holder (110).

17. A method of testing a radio device (112), wherein the radio device (112) to be tested is mounted by means of a holder (110) at least partly inside a waveguide (108) closed at both its ends, **characterized** by generating a wideband mode of propagation in the waveguide by means of at least one ridge, the end of at least one ridge facing the holder being bevelled, and transmitting and receiving radio-frequency signals by using the wideband mode of propagation between the radio device (112) and a coupling (114) installed in the waveguide (108).

18. A method as claimed in claim 17, **characterized** by the coupling (114) adapting the radio-frequency signal propagating in the waveguide to a coaxial cable (116) connected to a radio frequency measuring device (100).

19. A method as claimed in claim 17, **characterized** by transmitting and receiving radio-frequency signals between the radio device

(112) and at least one loop (228) disposed in the waveguide (108), the loop transferring signal energy to a measuring device (100) operationally coupled to the loop.

20. A method as claimed in claim 17, **characterized** by transmitting and receiving radio-frequency signals between the radio device (112) and at least one probe (228) disposed in the waveguide (108), the probe transferring signal energy to a measuring device (100) operationally coupled to the probe.

21. A method as claimed in claim 17, **characterized** by performing the calibration of the test equipment by means of a reference unit (500) having a grounded antenna circuit.

22. A method as claimed in claim 17, **characterized** by one or more pegs made from a conductive material being fastened to the inner surface of the waveguide at the end of the waveguide on the side of the holder.

23. A method as claimed in claim 17, **characterized** by the frequency area to be tested simultaneously comprising at least two frequency bands intended for mobile telephones.